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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/004,357

DATE: 04/02/2002 8:5
TIME: 14:03:58

Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

4 <110> APPLICANT: Castle, Linda A.
5 Siehl, Dan
6 Giver, Lorraine
7 Minshull, Jeremy
8 Ivy, Christina
9 Chen, Yong Hong
10 Duck, Nicholas B.
12 <120> TITLE OF INVENTION: NOVEL GLYPHOSATE N-ACETYLTRANSFERASE
(GAT) GENES
15 <130> FILE REFERENCE: 02-107010US
17 <140> CURRENT APPLICATION NUMBER: US 10/004,357
18 <141> CURRENT FILING DATE: 2001-10-29
20 <150> PRIOR APPLICATION NUMBER: US 60/244,385
21 <151> PRIOR FILING DATE: 2000-10-30
23 <160> NUMBER OF SEQ ID NOS: 515
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 441
29 <212> TYPE: DNA
30 <213> ORGANISM: Bacillus licheniformis
32 <400> SEQUENCE: 1
33 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
34 cggccgaatc agccgcttga agcatgtatg tatgaaaccg atttgctcg 99gtgcgttt 120
35 cacctcggtg gatattaccg gggcaagctg atcagcatcg cttcctttca taaagccaa 180
36 cattcagagc ttgaaggcga agaacagtat cagctgagag ggatggcgac gcttgaagga 240
37 taccgtgagc aaaaagcggg aagcacgctc atccggcatg ccgaagagct tcttcggaaa 300
38 aaggggcag acctttatg gtgcaatgcc aggacatctg tgagcggcta ctatgaaaag 360
39 ctcggcttca gcgaacaggg cgaagtctac gacataccgc cgatcggacc tcataatttg 420
40 atgtataaga aattgacgta a 441
42 <210> SEQ ID NO: 2
43 <211> LENGTH: 441
44 <212> TYPE: DNA
45 <213> ORGANISM: Unknown
47 <220> FEATURE:
48 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
50 <400> SEQUENCE: 2
51 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
52 cggccgaatc agccgcttga agcatgtatg tatgaaaccg atttgctcg 99gcacgttt 120
53 cacctcggtg gatattatcg ggacaggctg atcagcatcg cttcctttca tcaagccaa 180
54 cattcagagc ttgaaggcga aaaaacagtat cagctgagag ggatggcgac acttgaaggg 240
55 taccgtgagc aaaaagcggg cagtacgctt atccggcatg ccgaagagct tcttcggaaa 300
56 aaaggcgcag acctttatg gtgcaacgccc aggacatctg tgagcggcta ctataaaaag 360
57 ctcggcttca gcgaacaagg cggggcttac gatataccgc cgatcggacc tcataatttg 420

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TIME: 14:03:58

Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

58 atgtataaga aattgacata a 441
 60 <210> SEQ ID NO: 3
 61 <211> LENGTH: 441
 62 <212> TYPE: DNA
 63 <213> ORGANISM: Unknown
 65 <220> FEATURE:
 66 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
 68 <400> SEQUENCE:
 69 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
 70 cggccgaatc agccgcttga agcatgtatg tatgaaaccg atttgctcgg gggtaacgttt 120
 71 cacctcggtg gatattaccc gggcaagctg atcagcatcg cttcccttca taatgccaa 180
 72 cattcagagc ttgaaggcca aaaacagtat cagctgagag ggatggcgcac gcttgaaggg 240
 73 taccgcgagc aaaaagcggg aagtacgctt atccgcctatg ccgaagagct tcttcgaaaa 300
 74 aaaggcgcgg acctttatg gtgcaacgc aggatatctg tgagcggcta ctatgaaaag 360
 75 ctcggcttca gcgaacaagg cgggatctac gacataccgc cgatcggacc tcataatgg 420
 76 atgtataaga aattggcata a 441
 78 <210> SEQ ID NO: 4
 79 <211> LENGTH: 441
 80 <212> TYPE: DNA
 81 <213> ORGANISM: Unknown
 83 <220> FEATURE:
 84 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
 86 <400> SEQUENCE:
 87 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
 88 cggccgaatc agccgcttga agcatgtatg tatgaaaccg atttgctcgg gggtaacgttt 120
 89 cacctcggtg gatattaccc gggcaagctg atcagcatcg cttcccttca taatgccaa 180
 90 cattcagagc ttgaaggcca aaaacagtat cagctgagag ggatggcgcac gcttgaaggg 240
 91 taccgcgagc aaaaagcggg aagtacgctt atccgcctatg ccgaagagct tcttcgaaaa 300
 92 aaaggcgcgg acctttatg gtgcaacgc aggatatctg tgagcggcta ctatgaaaag 360
 93 ctcggcttca gcgaacaagg cgggatctac gacataccgc cgatcggacc tcataatgg 420
 94 atgtataaga aattggcata a 441
 96 <210> SEQ ID NO: 5
 97 <211> LENGTH: 441
 98 <212> TYPE: DNA
 99 <213> ORGANISM: Unknown
 101 <220> FEATURE:
 102 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
 104 <400> SEQUENCE:
 105 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
 106 cggccgaatc agccgcttga agcatgtatg tatgaaaccg atttgctcgg gggtaacgttt 120
 107 cacctcggtg gatattacca gggcaagctg atcagcatcg cttcccttca taaagccaa 180
 108 cattcagagc ttgagggcga aaaaacagtat cagctgagag ggatggcgcac gcttgaaggg 240
 109 taccgtgagc aaaaagcggg aagcacgcctc atccgcctatg ccgaagagct tcttcgaaaa 300
 110 aaaaaaaaaaaaaacggg acctttatg gtgcaatgcc aggacatctg tgagcggcta ctatgaaaag 360
 111 ctcggcttca gcgaacaggc cgaagtctac gacataccgc cgatcggacc tcataatgg 420
 112 atgtataaga aattgacgt a 441
 114 <210> SEQ ID NO: 6
 115 <211> LENGTH: 146
 116 <212> TYPE: PRT

RAW SEQUENCE LISTING
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Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

117 <213> ORGANISM: *Bacillus licheniformis*
119 <400> SEQUENCE: 6
120 Met Ile Glu Val Lys Pro Ile Asn Ala Glu Asp Thr Tyr Glu Ile Arg
121 1 5 10 15
122 His Arg Ile Leu Arg Pro Asn Gln Pro Leu Glu Ala Cys Met Tyr Glu
123 20 25 30
124 Thr Asp Leu Leu Gly Gly Ala Phe His Leu Gly Gly Tyr Tyr Arg Gly
125 35 40 45
126 Lys Leu Ile Ser Ile Ala Ser Phe His Lys Ala Glu His Ser Glu Leu
127 50 55 60
128 Glu Gly Glu Glu Gln Tyr Gln Leu Arg Gly Met Ala Thr Leu Glu Gly
129 65 70 75 80
130 Tyr Arg Glu Gln Lys Ala Gly Ser Thr Leu Ile Arg His Ala Glu Glu
131 85 90 95
132 Leu Leu Arg Lys Lys Gly Ala Asp Leu Leu Trp Cys Asn Ala Arg Thr
133 100 105 110
134 Ser Val Ser Gly Tyr Tyr Glu Lys Leu Gly Phe Ser Glu Gln Gly Glu
135 115 120 125
136 Val Tyr Asp Ile Pro Pro Ile Gly Pro His Ile Leu Met Tyr Lys Lys
137 130 135 140
138 Leu Thr
139 145
142 <210> SEQ ID NO: 7
143 <211> LENGTH: 146
144 <212> TYPE: PRT
145 <213> ORGANISM: Unknown
147 <220> FEATURE:
148 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
150 <400> SEQUENCE: 7
151 Met Ile Glu Val Lys Pro Ile Asn Ala Glu Asp Thr Tyr Glu Ile Arg
152 1 5 10 15
153 His Arg Ile Leu Arg Pro Asn Gln Pro Leu Glu Ala Cys Lys Tyr Glu
154 20 25 30
155 Thr Asp Leu Leu Gly Gly Thr Phe His Leu Gly Gly Tyr Tyr Arg Asp
156 35 40 45
157 Arg Leu Ile Ser Ile Ala Ser Phe His Gln Ala Glu His Ser Glu Leu
158 50 55 60
159 Glu Gly Gln Lys Gln Tyr Gln Leu Arg Gly Met Ala Thr Leu Glu Gly
160 65 70 75 80
161 Tyr Arg Glu Gln Lys Ala Gly Ser Thr Leu Ile Arg His Ala Glu Glu
162 85 90 95
163 Leu Leu Arg Lys Lys Gly Ala Asp Leu Leu Trp Cys Asn Ala Arg Thr
164 100 105 110
165 Ser Val Ser Gly Tyr Tyr Lys Lys Leu Gly Phe Ser Glu Gln Gly Glu
166 115 120 125
167 Val Tyr Asp Ile Pro Pro Ile Gly Pro His Ile Leu Met Tyr Lys Lys
168 130 135 140
169 Leu Thr
170 145

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/004,357

DATE: 04/02/2002
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Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

173 <210> SEQ ID NO: 8
 174 <211> LENGTH: 146
 175 <212> TYPE: PRT
 176 <213> ORGANISM: Unknown
 178 <220> FEATURE:
 179 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
 181 <400> SEQUENCE: 8
 182 Met Ile Glu Val Lys Pro Ile Asn Ala Glu Asp Thr Tyr Glu Ile Arg
 183 1 5 10 15
 184 His Arg Ile Leu Arg Pro Asn Gln Pro Leu Glu Ala Cys Met Tyr Glu
 185 20 25 30
 186 Thr Asp Leu Leu Gly Gly Thr Phe His Leu Gly Gly Tyr Tyr Arg Gly
 187 35 40 45
 188 Lys Leu Ile Ser Ile Ala Ser Phe His Asn Ala Glu His Ser Glu Leu
 189 50 55 60
 190 Glu Gly Gln Lys Gln Tyr Gln Leu Arg Gly Met Ala Thr Leu Glu Gly
 191 65 70 75 80
 192 Tyr Arg Glu Gln Lys Ala Gly Ser Thr Leu Ile Arg His Ala Glu Glu
 193 85 90 95
 194 Leu Leu Arg Lys Lys Gly Ala Asp Leu Leu Trp Cys Asn Ala Arg Ile
 195 100 105 110
 196 Ser Val Ser Gly Tyr Tyr Glu Lys Leu Gly Phe Ser Glu Gln Gly Gly
 197 115 120 125
 198 Ile Tyr Asp Ile Pro Pro Ile Gly Pro His Ile Leu Met Tyr Lys Lys
 199 130 135 140
 200 Leu Ala
 201 145
 204 <210> SEQ ID NO: 9
 205 <211> LENGTH: 146
 206 <212> TYPE: PRT
 207 <213> ORGANISM: Unknown
 209 <220> FEATURE:
 210 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
 212 <400> SEQUENCE: 9
 213 Met Ile Glu Val Lys Pro Ile Asn Ala Glu Asp Thr Tyr Glu Ile Arg
 214 1 5 10 15
 215 His Arg Ile Leu Arg Pro Asn Gln Pro Leu Glu Ala Cys Met Tyr Glu
 216 20 25 30
 217 Thr Asp Leu Leu Gly Gly Thr Phe His Leu Gly Gly Tyr Tyr Arg Gly
 218 35 40 45
 219 Lys Leu Ile Ser Ile Ala Ser Phe His Asn Ala Glu His Ser Glu Leu
 220 50 55 60
 221 Glu Gly Gln Lys Gln Tyr Gln Leu Arg Gly Met Ala Thr Leu Glu Gly
 222 65 70 75 80
 223 Tyr Arg Glu Gln Lys Ala Gly Ser Thr Leu Ile Arg His Ala Glu Glu
 224 85 90 95
 225 Leu Leu Arg Lys Lys Gly Ala Asp Leu Leu Trp Cys Asn Ala Arg Ile
 226 100 105 110
 227 Ser Val Ser Gly Tyr Tyr Glu Lys Leu Gly Leu Ser Glu Gln Gly Gly

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/004,357

DATE: 04/02/2002
TIME: 14:03:58

Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

228 115 120 125
229 Ile Tyr Asp Ile Pro Pro Ile Gly Pro His Ile Leu Met Tyr Lys Lys
230 130 135 140
231 Leu Ala
232 145
235 <210> SEQ ID NO: 10
236 <211> LENGTH: 146
237 <212> TYPE: PRT
238 <213> ORGANISM: Unknown
240 <220> FEATURE:
241 <223> OTHER INFORMATION: Unidentified microorganism derived from soil sample
243 <400> SEQUENCE: 10
244 Met Ile Glu Val Lys Pro Ile Asn Ala Glu Asp Thr Tyr Glu Ile Arg
245 1 5 10 15
246 His Arg Ile Leu Arg Pro Asn Gln Pro Leu Glu Ala Cys Met Tyr Glu
247 20 25 30
248 Thr Asp Leu Leu Gly Gly Ala Phe His Leu Gly Gly Tyr Tyr Gln Gly
249 35 40 45
250 Lys Leu Ile Ser Ile Ala Ser Phe His Lys Ala Glu His Ser Glu Leu
251 50 55 60
252 Glu Gly Glu Glu Gln Tyr Gln Leu Arg Gly Met Ala Thr Leu Glu Gly
253 65 70 75 80
254 Tyr Arg Glu Gln Lys Ala Gly Ser Thr Leu Ile Arg His Ala Glu Glu
255 85 90 95
256 Leu Leu Arg Lys Lys Gly Ala Asp Leu Leu Trp Cys Asn Ala Arg Thr
257 100 105 110
258 Ser Val Ser Gly Tyr Tyr Glu Lys Leu Gly Phe Ser Glu Gln Gly Glu
259 115 120 125
260 Val Tyr Asp Ile Pro Pro Ile Gly Pro His Ile Leu Met Tyr Lys Lys
261 130 135 140
262 Leu Thr
263 145
266 <210> SEQ ID NO: 11
267 <211> LENGTH: 441
268 <212> TYPE: DNA
269 <213> ORGANISM: Artificial Sequence
271 <220> FEATURE:
272 <223> OTHER INFORMATION: Synthetic DNA Sequence
274 <400> SEQUENCE: 11
275 atgattgaag tcaaaccat aaacgcggaa gatacgtatg agatcaggca ccgcattctc 60
276 cggccgaatc agccgctgga agcatgcaag tatgaaaccg atttgctcag gggtagttt 120
277 cacctcggtg gatattaccg gggcaagctg atcagcatcg cttccattca tcaagccgaa 180
278 catccagagc ttgaaggcca aaaacagtat cagctgagag ggatggcgac actcgaaggg 240
279 taccgtgagc aaaaaggcgaa aagcacgctc atccgcattg ccgaagagct tcttcggaaa 300
280 aaaggcgcgg acctttatg gtgcaacgccc aggacgtctg cgagcgggta ctataaaaag 360
281 ctcggcttca gcgaacacggg cgaagtctac gacataccgc cggtcggacc tcataattttg 420
282 atgtataaga aattgacgta a 441
284 <210> SEQ ID NO: 12
285 <211> LENGTH: 441

→ Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/004,357

DATE: 04/02/2002

TIME: 14:03:59

Input Set : A:\02-107010us SEQUENCE LISTING.txt
Output Set: N:\CRF3\04022002\J004357.raw

L:387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:3687 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:200
L:3690 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:200
L:4463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:243
L:4464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:243
L:8673 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:387
L:10698 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:452
L:10706 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:452
L:12039 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:495
L:12041 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:495
L:12043 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:495